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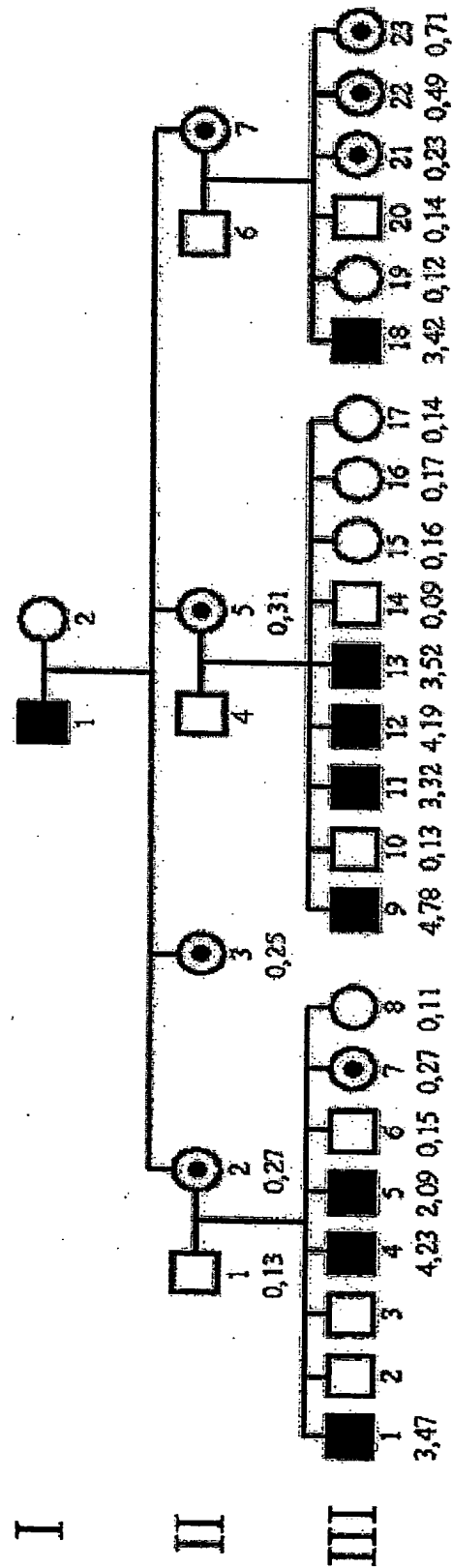


Figure 1A

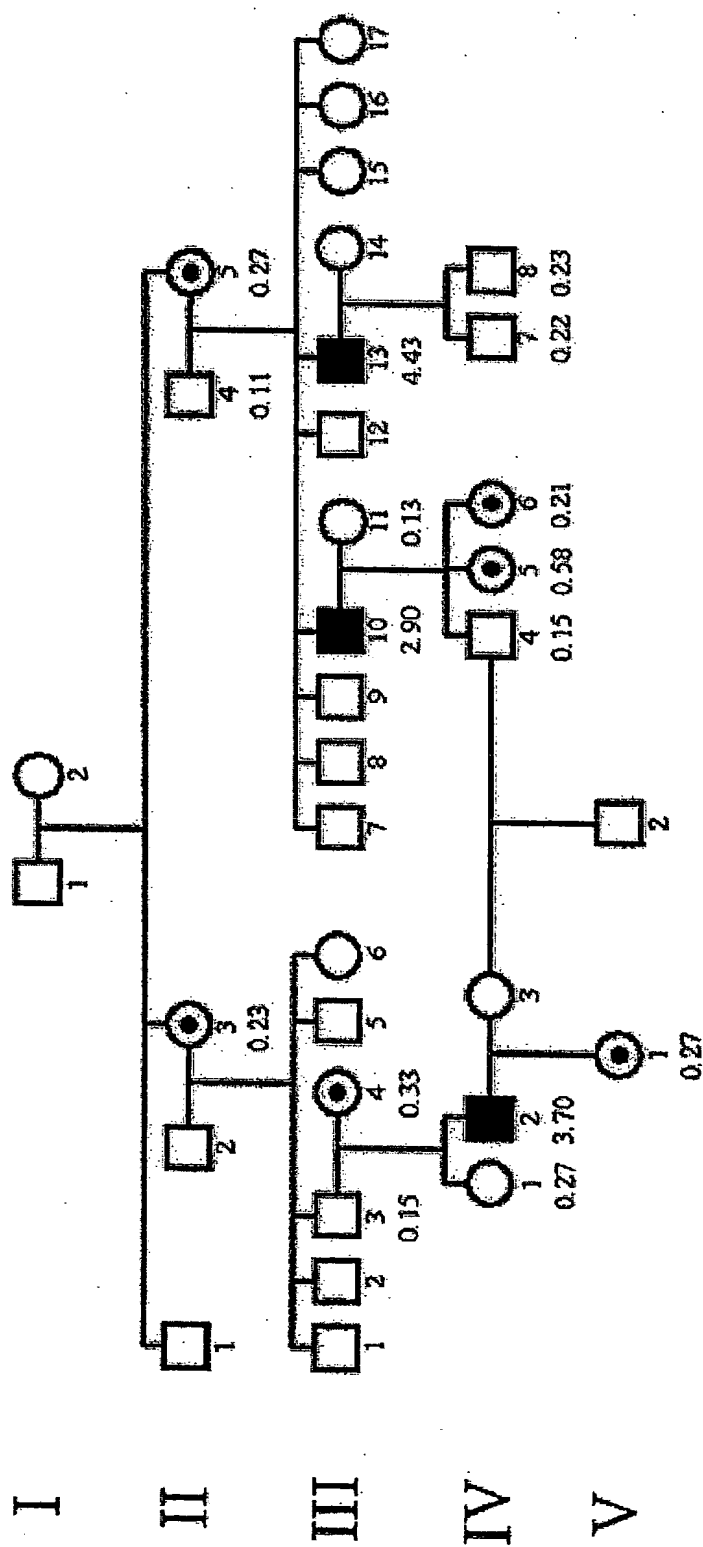


Figure 1B

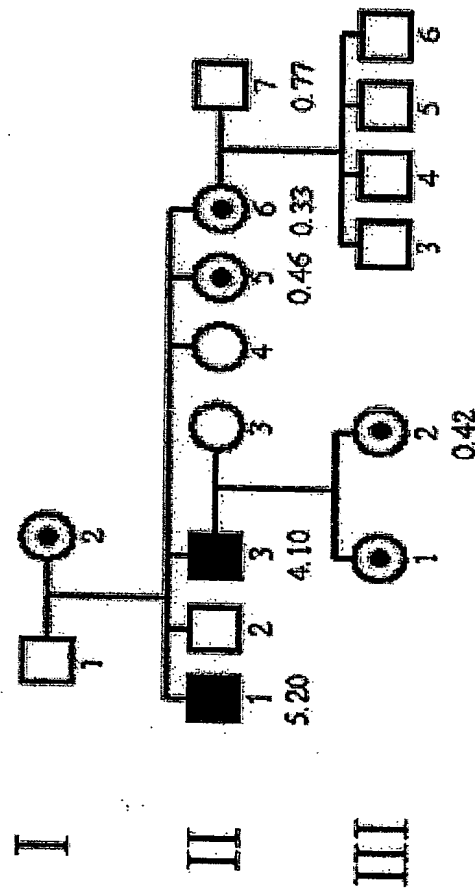


Figure 1C

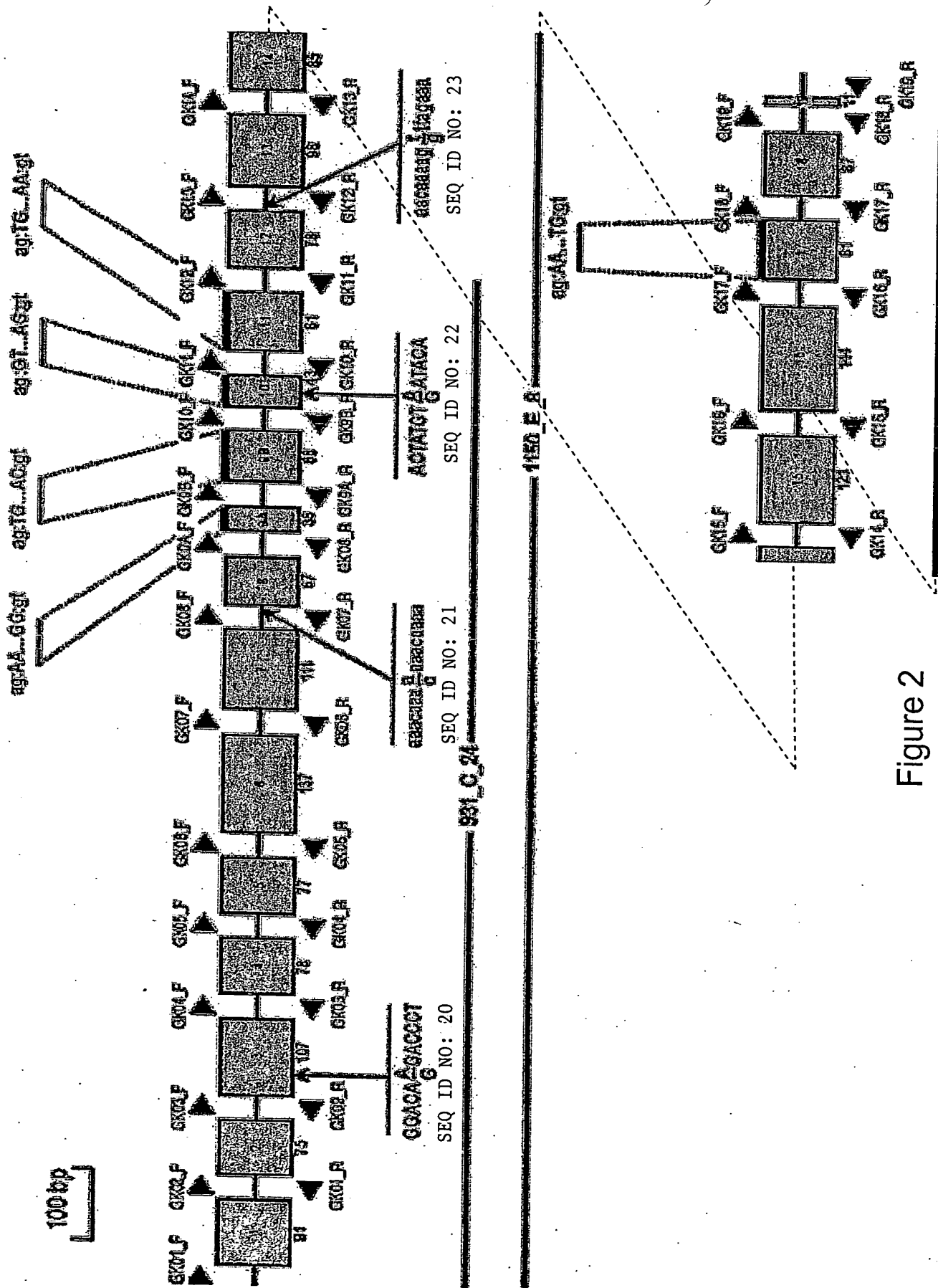


Figure 2

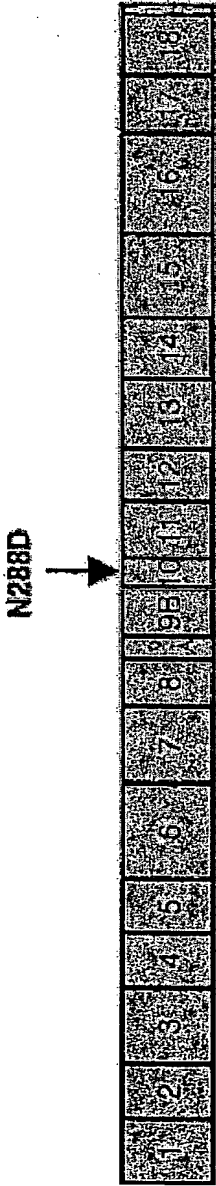


Figure 3A

G TAT GGA ACA GGA TGT TTC CTA TGT  $\frac{A}{C}$ AT ACA GGC CAT AAG

270

310

GK N288D Mutant	SEQ ID NO:
glpk_human	6
glpk_rat	7
glpk_mouse	8
glpk_ecoli	9
glpk_pseae	10
glpk_entca	11
glpk_haein	12
glpk_bacsu	13
glpk_yeast	14
glpk_mycge	15
glpk_entfa	16
glpk_mycopn	17
glpk_syny3	18

FQIGQAKNTYGTGCGFLLC<sup>288</sup>DTGCHKCVFSDHG<sup>289</sup>LLTTVA<sup>290</sup>YKLGR  
FQIGQAKNTYGTGCGFLLC<sup>288</sup>DTGCHKCVFSDHG<sup>289</sup>LLTTVA<sup>290</sup>YKLGR  
FQDGQAKNTYGTGCGFLLC<sup>288</sup>DTGCHKCVFSEHG<sup>289</sup>LLTTVA<sup>290</sup>YKLGR  
FQDGQAKNTYGTGCGFLLC<sup>288</sup>DTGCHKCVFSEHG<sup>289</sup>LLTTVA<sup>290</sup>YKLGR  
VKEGMAKNTYGTGCGFLL<sup>288</sup>NTGKAVKSENG<sup>289</sup>LLTTIAC<sup>290</sup>--GP  
VEFGQAKNTYGTGCGFL<sup>288</sup>MTGDKAVKSTHGL<sup>289</sup>LLTTIAC<sup>290</sup>--GP  
FEKGM<sup>288</sup>IKNTYGTGCAFI<sup>289</sup>VNTGEEPQLSDND<sup>290</sup>LLTTIGY<sup>291</sup>--GI  
VHAGQAKNTYGTGCGFLL<sup>288</sup>HTGNKAI<sup>289</sup>TSKNG<sup>290</sup>LLTTIAC<sup>291</sup>NAKG  
FEEGMGKNTYGTGCGFLL<sup>288</sup>MTGKAI<sup>289</sup>SEHG<sup>290</sup>LLTTIAW<sup>291</sup>--GI  
YKFGAAKCTYGTGCGFL<sup>288</sup>LV<sup>289</sup>TG<sup>290</sup>TKKLI<sup>291</sup>SOHGA<sup>292</sup>LLT<sup>293</sup>LA<sup>294</sup>FW<sup>295</sup>PH  
TEPGMVKNTYGTGCGFV<sup>288</sup>LMT<sup>289</sup>IGDK<sup>290</sup>PTLS<sup>291</sup>SKHN<sup>292</sup>LLT<sup>293</sup>VAW<sup>294</sup>QLEN  
FEFGMKNTYGTGSG<sup>288</sup>FI<sup>289</sup>VNTGEEPQLSKN<sup>290</sup>LLTTIGY<sup>291</sup>--GI  
VEFGMKNTYGTGCGFLL<sup>288</sup>MTG<sup>289</sup>NEL<sup>290</sup>KYSQH<sup>291</sup>LLT<sup>292</sup>VAW<sup>293</sup>QLEN  
DRFGLLKCTYGTGAFV<sup>288</sup>ANT<sup>289</sup>GQ<sup>290</sup>TVTR<sup>291</sup>SRH<sup>292</sup>LLST<sup>293</sup>VAW<sup>294</sup>TQTN

Figure 3B

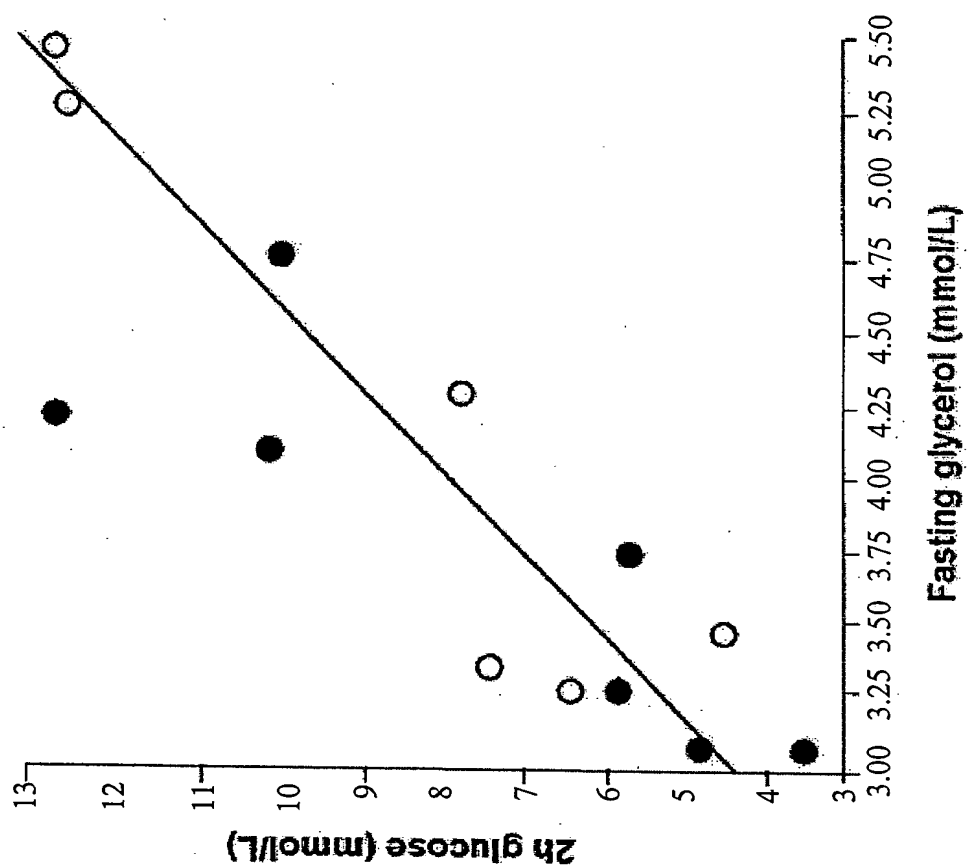


Figure 4A

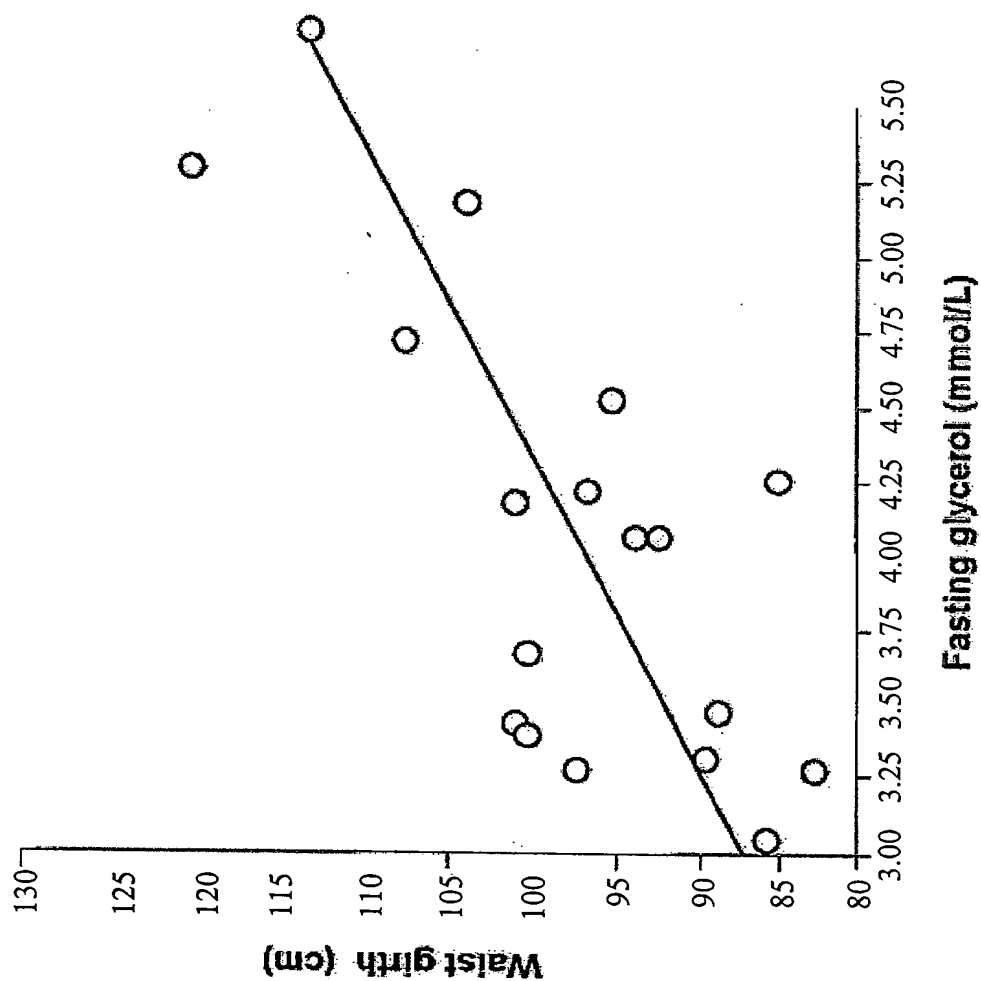


Figure 4B



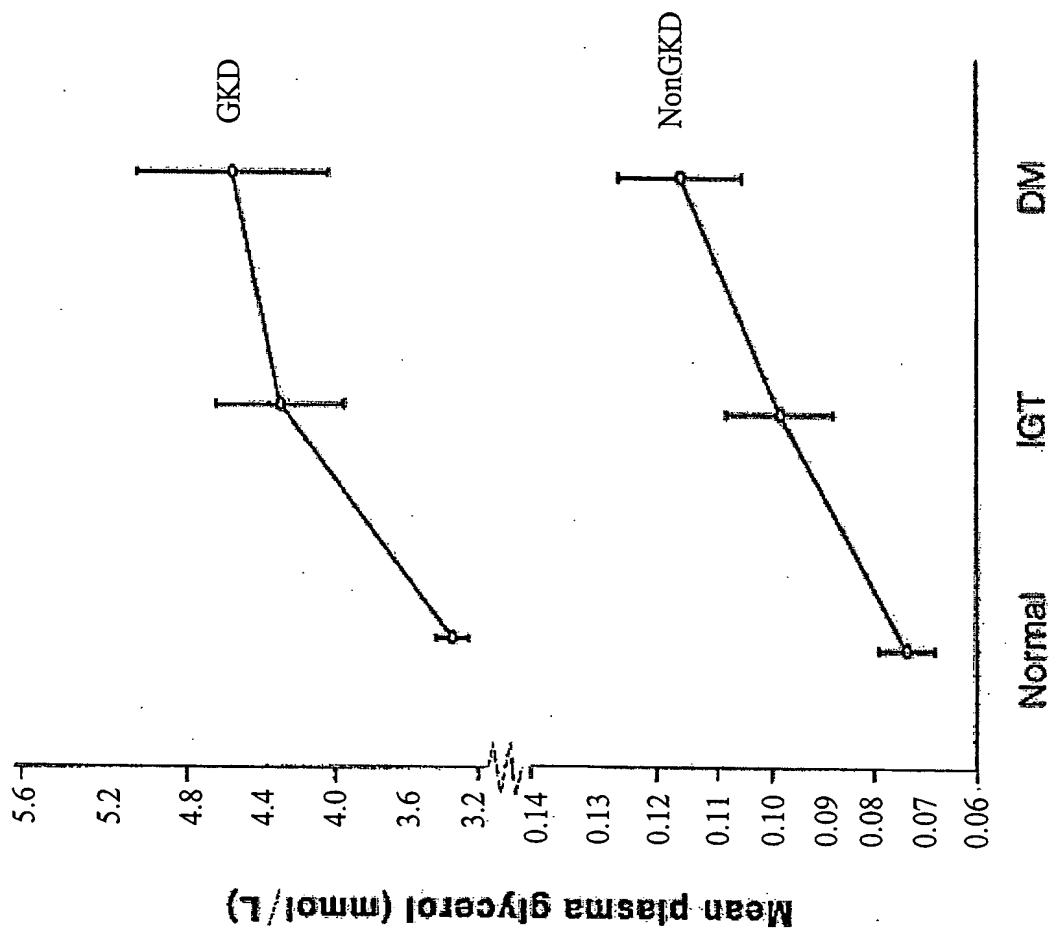


Figure 4C

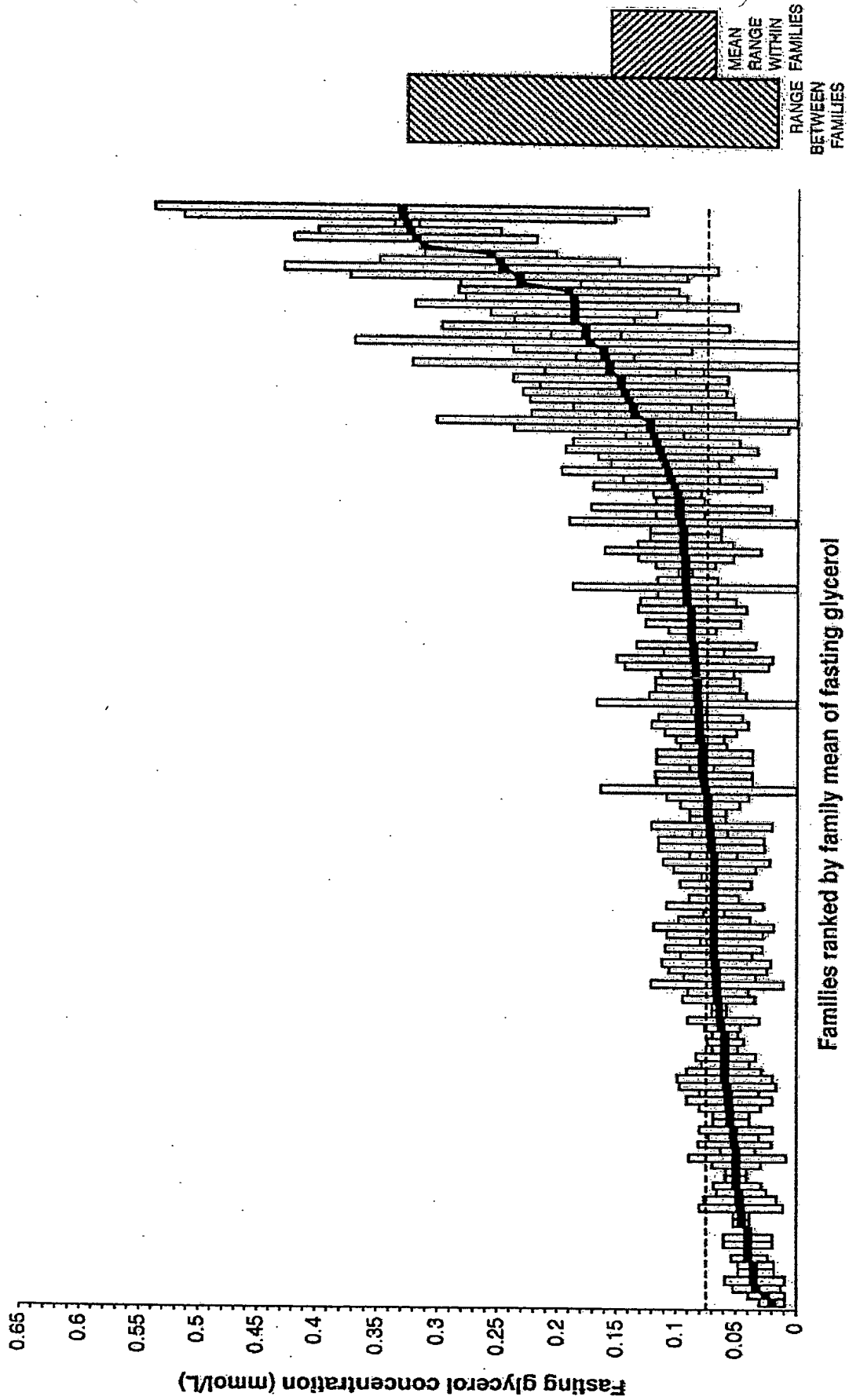


Figure 5

poly: A/G  
location: 13th base of exon 3

ATGCCTTCTTTTGTCAAAGATGGGTGGAACA [A/G] GACCCTAAGGAAATTCTACAT  
TCTGTCT SEQ ID NO: 1

CAA vs CAG ==> silent

poly: A/C  
location: 17th base of intron 8

TAATGGTAAAAACAAACAAA [A/C] AAACAAAAACACACCAAAAAACCAA  
SEQ ID NO: 2

poly: A/G  
location: 29th base of exon 10

TTCATTCTCCCTTCAACCATAGGTATGGAACAGGATGTTTCTTACTATGT [A/G] AT  
ACAGGCCATAAGGTtGGTTTTTAATAAAAATGATTAAGTCA SEQ ID NO: 3

AAT vs GAT ==> N to D

poly: G/T  
location: 22nd base of intron 12

GAAATTGGTGAGTGTGTTCTAACAAAAG [G/T] TTAGAAAATCTGAAAATGACACA  
TTTCA SEQ ID NO: 4

Figure 6

SEQ ID NO: 5

Exon 1:

GGTTCAGCGGACGCGCGCGGCCCTCGGTCTCTGGACTCGTCACCTGCCCCCTCCCCCTCCCGCC  
GCCGTCACCCAGGAAACCGGCCGCAATCGCCGGCCGACCTGAAGCTGGTTTCATGGCAGCCT  
CAAAGAAGGCAGTTTTGGGGCCATTGGTGGGGGCGGTGGACCAGGGCACCAGTTCGACGCGC  
TTTTTGGTGAGCCCGGGGTGACATGTGAAGAGGCGCTGAGC

Exon 2:

TGTAAAACGACGGCCAGTCATCCTTGATATCTGCCTGCATTTTTACATTAATATTACAATAT  
CTTTTTCAGGTTTTCAATTCAAAAACAGCTGAACTACTTAGTCATCATCAAGTAGAAATAAA  
ACAAGAGTTCCCAAGAGAAGGGTATGTTTCCTAATTTAATATGTAAAGACACATTATGTTTG  
TTAGTCCATCTCACCCAACCTTGCCC

Exon 3:

CAATGCCTTCTTTTGTCAAAGATGGGTGGAACA [A/G] GACCCTAAGGAAATTCTACATTCT  
GTCTATGAGTGTATAGAGAAAACATGTGAGAACTTGGACAGCTCAATATTGATATTTCCAA  
CATAAAAGGTATTTTAGTAGAATATTTTACCCACA

Exon 4:

TGTAAAACGACGGCCAGTTGAGAGCTGTTTTCTGAAGTAGTTCCTACTTGTTAAATTTTTG  
ACTTCCTTCTGTTTAACTTTCTCTTTAAAGCTATTGGTGTGAGCAACCAGAGGGGAAACCACT  
GTAGTCTGGGACAAGATAACTGGAGAGCCTCTCTACAATGCTGTGGGTAAGCTGTCATGCAT  
GGATGTCAAATGTAGGGCCTTTCTTCACATTGCAA

Exon 5:

TGTAAAACGACGGCCAGTTCCTTGATAGTGATTTTCAGTAAGTTCTTATTTTTTTTAAATGAAG  
TTTTTCATGTATATTATTTTATTTTGGTCTATAGTGTGGCTTGATCTAAGAACCCAGTCTAC  
CGTTGAGAGTCTTAGTAAAAGAATTCCAGGAAATAATAACTTTGTCAAGGTAAGAATTTCTT  
CAGAAGTATACTATAAGAATGTTTCTTTTTTTTAAAAAAAGTTTGCAGATTTCACTAGAAAGA  
AGCATCTTATGGTACAATAGTTATTTGATACAATTTATAGAATCTTTTTTCCCGGATAATTGA  
GGCC

Exon 6:

TGTAAAACGACGGCCAGTTTCTTTTGTGTTGGTGGTTTTGTTTTAAACTGTTACACTTTTCAT  
TTGCTAACTGAACTTCACAACTGCTTTTAGTCCAAGACAGGCCTTCCACTTAGCACTTACTT  
CAGTGCAGTGAACTTCGTTGGCTCCTTGACAATGTGAGAAAAGTTCAAAGGCCGTTGAAG  
AAAAACGAGCTCTTTTTGGGACTATTGATTCATGGCTTATTTGGGTATGTTTAAATATAATG  
GATATATGGAGAATTTTTTCAGAAATTTTTCTAGACTGCCTTGCCCTATTGTTTCTACTAGC  
AGGTCAGACTTTTTAATTAGCA

Figure 7A

Exon 7:

TGTAACACGACGGCCAGTTGTGCTCTGCTGATTATGACCCTTAACAATATGTAAATTAAATT  
GCCAATAAGTACAAATTTAACCTGATTTTTTTTACTCTGCCTAGAGTTTGACAGGAGGAGTCA  
ATGGAGGTGTCCACTGTACAGATGTAACAAATGCAAGTAGGACTATGCTTTTCAACATTCAT  
TCTTTGGAATGGGATAAACAACTCTGCGAGTAAGTTCTGTTTTGCTCTAAATATAGTTTTCC  
CAATACACTACCTATTTTATAACCGAAATCTTAATATTTTCAGATGTCAGTGGAGCA

Exon 8:

TGTAACACGACGGCCAGTACAGTGTTAAATACCCAATCTTCTTGTTTTTCAGATTTTTTTGGA  
ATTCCAATGGAAATCTTCCAAATGTCCGGAGTTCTTCTGAGATCTATGGCCTAATGGTAAA  
AAACAAACAAA [A/C] AAACAAAAAACACACCAAAAAACCAAAAAACAAACAAAAAAAACC  
TAATAATTAAAGTTTTTTTTATTACAAAACAAGTTTACTATTCAATAATTCAAAGTCAACTGT  
GTTATGTTTTGTGACTTAAAACTTTACAGTCCTTTTTTACAATGG

Exons 9A and 9B

AAAGCTGGGGCCTTGGAAGGTGTGCCAATATCTGGGGTAAGTTTCATCACCAAGTGTCTCCC  
CATCCCCACCCTTCCCCATGTTATGGCTTTCCTCCTCTTAGTTCATCAGTGTGCCTCTTTTT  
AACTAGGGAAAACAAGTAAAAGTTGCAAAATTGGANNNTCTTGTTCTTACATGTCATACT  
GTGGGCCATTGAGAATCTTTTGAATAAATTAATTTTAACTCTCCCTTCCCATACCTATTATC  
TTACATATTAACAAATGGTATTAACAAATGGGGAAAATGGCCAAATGGAGAAAATGCAAGGA  
AATAGACAGTTCATTCTTTGATAAATAAAAAATGAAAAATAAATCCTATGGCTCTTCTAAAA  
AGAAAGTTAATACTATTGTATTAGTCAGTGTTCTTTATTGTCAATTATACCTTTCAGTGTTTA  
GGGACCAGTCTGCTGCATTGGTGGGACAAATGTGCTTCCAGATTGGACAAGCCAAAAATAC  
GTGAGTTTAAGAAACAGACTTAAAAACCAATGCTGTTTTGTGTTTTTCTACTTGGTGCTTTGA  
ATAAGGAAAAGCTTTTTGAAGTTCATCCAGGATGAAAATCAATAGCTTAATAGCTCCAATATG  
CATATATACACTTTTTTACCATTTTTTTTATATCTTTAAATAAAATACAAA  
TGCCATATATATGCACACTGATGAAGCTTATAAAGACCTAAATTTGTAGGCTGGGCGCGG

Exons 10 and 11:

TTATTTGCTTTCAATAAAATTGTCTTCTATTTCATTCTCCCTTCAACCATAGGTATGGAACAG  
GATGTTTCTTACTATGT [A/G] ATACAGGCCATAAGGTTGGTTTTTTTAAATTAAAAAATTGA  
TTTAAAGTCTAAGTTCATCTAAATAATGCTTGAACATAATTTACTATTAAACAACCTTTTAG  
TCTTTAGCTTTTACTTAATCTTTATCAGGGTTTAATTTAGAGCTCAATACAAAATTTGAATC  
GTTCTAATAAGAACCATTTTAGACTCTTTGAATTTTATATGTGTGTTTTTAATTGTGCTGGG  
GGGAAATCTAGACTGAGACCTCATCAAATCTTAATGCAATCTAATTTGAAACAAGGAATA  
AACTTTTTTATACAGCTTAAATGTGTTCTTAATTCTGATCGTTTTTGACTGTAAGGATTTATTT  
TAAAAATTGGTTTATTGATTGCATTATTTTGTACCTATGTTATTTTAACTTTAAAAAAAAGT  
TCTCATGTTATCTTTTCATTTTCCACTACTGAAATCTTTTTTTTTTTCTTTCTTACAGTGTGT  
ATTTTCTGATCATGGCCTTCTCACCACAGTGGCTTACAACTTGGCAGAGACAAACCAGTAT  
ATTATGCTTTGGAAGTAAGTTCTTTTAAATCAATATGGATAATATGACAAACATTCAAAGCT  
AATAAAAATCACAGAGTTTTCTAACACTTTTCTGGTAAATCTTAATACAGAGGACTCAAAAA  
GTTCTGCTTTCTTGGCATTGATTGAGTTGAAGGAACCTGAAACTGATCTGGGTGTCAGGAC  
TCACAGGAGACCTTGATTAGATTGGTTCCTCAGTTCTTATGCCAATTAATCATGTACCTTA  
GGCATATTACTTGAGAGCTCTACAATGTGAGGTTTTTTTTTTTTTTTATCTCTAAAGTTTAAAT  
CGGATTAACGTGCTCTCTAACATTTCTTTCATCTTGAAAATTCTTTGATTTTATAAATAAAA  
TGCTCCAGTGTTCCAAAGAGAACCTGGGCACAAATAGGCAGAACAACTCTCTTCACTTGTC  
TCCTCATAAAAATAAATTTTGTGTAACATTTTGATATAGAAAAGAAAGCGACGAGATTTATG  
CCACTTATCACTGGAAACATTTGTTTCAAACATTTTTGTATGTTATAGTAGGAATATGCCAG  
CCTAAGCCTATA

Figure 7B

Exon 12:

TTTTATTAGTGA CTTAGATAAACTATGTTTGTATTAGAAGACCTAGTTTACATATTTGTCTG  
GAGTCTCAAAATGGAACTGAATTTCTGTCCATCTGATTGTGTCATACACAGAATATGCTCAA  
TAAAAACCTTGGATAGTGATAAAATATATTCTGTCTTGAATTCCTTTTTTTCTTTAGGGTTC  
TG TAGCTATAGCTGGTGTCTGTTATTCGCTGGCTAAGAGACAATCTTGGAATTATAAAGACCT  
CAGAAGAAATTGGTGAGTGTGTTCTAACAAAAG [G/T] TTAGAAAATCTGAAAATGACACA  
TTTCAGTATTTTATCTCTGCAAAGTAAATATCGATGCTTTGCCCAAATGTGAT

Exon 13:

CCAGTTGTGTGATTTTTGTTTTGTTTTGTTTTAATGTTAGAAAACTTGCTAAAGAAGTAGG  
TACTTCTTATGGCTGCTACTTCGTCCCAGCATTTTCGGGGTAATATGCACCTTATTGGGAGC  
CCAGCGCAAGAGGGTAAGTATTGAAAATATGGAGTGCTTTTGGGGATCTTGATTTAT

Exons 14 and 15:

TGTA AACGACGGCCAGTTGATTATGTCCAATTTTCTCTTCCTGGACATTTCTGTCTACCAA  
ATTTGACCTTTTTCATATTTGAGATATTTCAAATTGATTGGTTTATATCATTCTAATCTGAAA  
ATCTTTGTGCGTATTTTTAGGATAATCTGTGGACTCACTCAGTTCACCAATAAATGCCATAT  
TGCTTTTGTCTGCATTAGAAGCTGTTTGTTCCAAACCTCGAGAGGTAACAAATATGGGCCTGT  
TTTCTTGTACTTAGTTCACTTTTATCACTCTTAAGTTATATGTTAACACCCGAGATTTATTC  
AGTACTGAAAATGTAGTTAATCAAATATTAAGGCTGCCTAAATACTAATCTAAATATAAGCA  
GGGTTTTTCCCCCTTTTTCCAGCTGTCATTACCTTCTAAGTTCCTGTTCCCTGTCAGGCACTG  
GGAAATTTATGGTTGTGGGGAGGCTGAGTGGCACACATTAGGCAAAGGAAACAGCACAAACA  
TAGGCATCaAGGCAGAAAAACAGGGTGCAAAATAGAGTTGTATAGCTTAGCTGAATATCAAG  
GTGAATGCAGAGGTGTAGTGAGAGAAAAGGTTGGCTGTGACCAGATCAAAGAGGGCTTAGAA  
GACCAGAATAAGAAGTCTCAATTTATTCCATAGGCTCTTGGAAGCTCTTGAGAGTTTCTGAG  
TGGAGGATTGCCATTTTTCAGAGATGTTACTATGAAATAGATTTATAACATTAATTGCACTGG  
TTTATTTAAGATTTTGGATGCCATGAATCGAGACTGTGGAATTCCACTCAGTCATTTGCAGG  
TAGATGGAGGAATGACCAGCAACAAAATTCTTATGCAGCTACAAGCAGACATTCTGTATATA  
CCAGTAGGTTAGTAAGTCTTCATTTCCTTTAAACTCCCAGAGTAATGTTTCTTGTGGAATAAC  
TAGTTCCTTTGGG

Exon 16:

TGTA AACGACGGCCAGTTCCCAGAGTAATGTTTCTTGTGGAATAACTAGTTCTTTGGGCAT  
ATGTAACCACAAAGATATTGATGGAACCTCTCTCTCCTCAGTGAAGCCCTCAATGCCCGAAAC  
CACTGCACTGGGTGCGGCTATGGCGGCAGGGGCTGCAGAAGGAGTCGGCGTATGGAGTCTCG  
AACCCGAGGATTTGTCTGCCGTCACGATGGAGCGGTTTGAACCTCAGATTAATGCGGAGGGT  
ACATTTAAGAATGAAATGTTTCAGTGATATACTGTGAAAACGACCTTAGTGCACGGGAGTTT  
TGTTTTTCTGTTTAGTTAAAAGTTAAGGAACCAAGTAAAATAGTAAATGTTATCATTTGCAGA  
TTCGGCTGCCAAGCATATTGGGCTTTACTGAATAAATGTGAATGAGAGAAATCGTTGCTTAT  
CAAAAGAACTTCTAAAATCACTTTTTTAAAATCATT

Exon 17:

TGTA AACGACGGCCAGTAGCCCTACTGCAGTTTAATGTGTCAATAATTTGTCAAGAATGTT  
GAGTGATCATAAGTATGGTACTAAGAACATCTCAGCAAACTACCTTTTCGTTATGTGTTTTT  
CTACCTTCTAATTCTAGAAAGTGAAATTCGTTATTCTACATGGAAGAAAGCTGTGATGAAGT  
CAATGGGTTGGGTTACAACCTCAATCTCCAGAAAGTGGAATAAATGTTTTTGTTTATTATTGT  
CACATTTTCTTAGTATATTAAATAGTTATTTAAGTATCTAGGCATTTACACATAGCCAGGCT  
GCTCTGAAGAAAAGCATTATCATATGTCCAGAGATTCTGACATTTTGAAAACACTTTAAAGT  
TCTAAACACAAAATGTAAATTATCAGGTGT

Figure 7C

Exon 18:

TGTAAACGACGGCCAGTTGGTTTGGTTTGCTTGACTGGAATCTCTTCTGCTTGGATGACCA  
CAGGTGACCCTAGTATCTTCTGTAGTCTGCCCTTGGGCTTTTTTATAGTGAGTAGCATGGTA  
ATGTTAATCGGAGCAAGGTACATCTCAGGTTAGTTACTCTTTAAATTAGACAACTCTATTAG  
TTAGCTTTAATGTTTTTCGTGTATAACTTAGCAGAAATTTTTCAGTGTTTTTCATTCTTTCTG  
TGTCTAGGAAGCTGGAAAATCAATTAAAGGTCTAATTAGTTAGACCAATTAATCTTTGGGGG  
CAGTTAGAAGTAAGAACTGTGACTCTGCTTACCCTTTTAAATTTTAAATGTGATGACTTCT  
TTAAGAGGGACTACATTCTGCTGTCAGCTGCAGCAATAAGCAAAAGTGAAAATACTAATATT  
TAAATGACAGGACTTTCAGACTGACTGCTGAAAGTTAAAGTATACTT

Exon 19:

AAAATTACTGGCTTAAATGGAAATGATGCTTCTTATTCTGTATGTTCCCATGAAAGTGAAAC  
TTAAAAAATTCATGATTAGGGTTTCATGAAAAGGCCTTGTTTCTATGAAAATTGAGAC  
AGGTTGCATCTCTCTAAGCTAAAAGATGGGCTATGTGTCTAGAGTCTTAGACTTCTAAAATG  
CATGTGGTCACTATATGTAGGTTATCTCTTCGGTGACATACACTGCAATTTGAGAGGGCTGG  
AAATTGTTTGCCTTGGTAAACGATTAGCAACAGTGGCAATATTTGTTAATTTTGGAATTGGC  
CCTGTTTGTTCATTTTAATTGTGAGGCATGATTTAGAAATCATATGGACTTTCTAGCTTAA  
TAAATGATTGAATCATCTGCATTGCTTTAACTCCTGAATTGTATGCATGTATTATTGACATA  
TATGGTTTTTGTTCCTTCATTCAGGTATTCCATAAAACCTACCAACTCATGGATTCCCAAGA  
TGTGAGCTTTTTACATAATGAAAGAACCCAGCAATTCTGTCTCTTAATGCAATGACACTATT  
CATAGACTTTGATTTTATTTATAAGCCACTTGCTGCATGACCCTCCAAGTAGACCTGTGGCT  
TAAAATAAAGAAAATGCAGCAAAAGAATGCTATAGAAATATTTGGTGGTTTTTTTTTTTTT  
TAAACATCCACAGTTAAGGTTGGGCCAGCTACCTTTGGGGCTGACCCCTCCATTGCCATAA  
CATCCTGCTCCATTCCCTCTAAGATGTAGGAAGAATTCGGATCCTTACCATTGGAATCTTCC  
ATCGAACATACTCAAACACTTTTGGACCAGGATTTGAGTCTCTGCATGACATATACTTGATT  
AAAAGGTTATTACTAACCTGTAAAAATCAGCAGCTCTTTGCTTTTAAAGAGACACCCTAAAA  
GTCTTCTTTTCTACATAGTTGAAGACAGCAACATCTTCACTGAATGTTTGAATAGAAACCTC  
TACTAAATTATTAAAAATAGACATTTAGTGTTCTCACAGCTTGGATATTTTCTGAAAAGTTA  
TTTGCCAAAACCTGAAATCCTTCAGATGTTTTCCATGGTCCCACTAATTATAATGACTTTCTG  
TCTGGGTCTTATAGGAAAAGATACTTTCTTTTTTCTTCCATCTTTCCTTTTTATATTTTTTA  
CTTTGTATGTATAACATACATGCCTATATATTTTATACACTGAGGGAGCCCATTTATAAATA  
AAGAGCACATTATATTCAGAAGGTTCTAACAGGG

Figure 7D

Table 1. Characteristics of Carriers of the N288D GK Gene Mutation and of Their Unaffected Relatives

	Men			Women		
	N288D carriers	Unaffected relatives	p	N288D carriers	Unaffected relatives	p
N	18	18		14	14	
Age (years)	46.4±14.2	42.0±18.8	0.32	44.9±13.5	43.7±17.8	0.87
Uncorrected triglyceride (mmol/L) <sup>(1)</sup>	6.26±1.13	2.05±0.54	<0.0001	2.84±1.20	1.30±0.65	0.0002
Glycerol (mmol/L)	3.99±0.71	0.10±0.04	<0.0001	0.54±0.14	0.10±0.02	<0.0001
Corrected triglyceride (mmol/L) <sup>(1)</sup>	2.27±0.75	1.95±0.53	<0.0001	2.31±1.22	1.19±0.67	0.03
Free fatty acid (mmol/L)	0.77±0.22	0.57±0.25	0.01	1.29±0.35	0.76±0.17	0.0004
Fasting glucose (mmol/L)	5.2±0.74	4.8±0.31	0.13	5.0±0.7	4.6±0.3	0.10
2h glucose following OGTT (mmol/L)	7.9±3.1	5.8±1.6	0.02	7.0±6.1	5.0±2.1	0.04
Fasting insulin (mU/L) <sup>(1)</sup>	13.3±14.0	15.1±14.8	0.62	12.2±13.1	9.0±3.4	0.60
Waist girth (cm)	97.7±9.3	88.1±12.3	0.01	88.5±3.8	79.8±5.8	0.03
Body mass index (kg/m <sup>2</sup> )	27.9±4.1	24.9±3.9	0.03	28.1±5.5	23.1±2.3	0.001
%Total body fat	27.1±7.2	22.9±7.6	0.01	46.8±8.1	33.9±11.3	0.001

(1) Geometric mean, p after log transformation.

Figure 8



**Table 2. Fasting plasma glycerol concentration (mmol/L) in the initial cohort of 1056 individuals, by risk factor of glucose intolerance and diabetes mellitus**

		No.	Glycerol geometric mean $\pm$ SD	p
Gender	men	717	0.065 $\pm$ 0.081	<0.0001
	women - premenopausal	137	0.071 $\pm$ 0.093	
	- menopausal	202	0.099 $\pm$ 0.085	
Age (Y)	<50	486	0.071 $\pm$ 0.082	0.0015
	50 - 60	408	0.076 $\pm$ 0.106	
	>60	165	0.083 $\pm$ 0.053	
Fasting glucose (mmol/L)	< 5.2	449	0.068 $\pm$ 0.080	<0.0001
	5.2 - 5.9	336	0.070 $\pm$ 0.090	
	6.0 - 6.9	271	0.090 $\pm$ 0.100	
Fasting insulin (UI)	<15	637	0.067 $\pm$ 0.082	0.02
	$\geq$ 15	419	0.086 $\pm$ 0.101	
2 hours glucose (mmol/L)	<7.8	572	0.062 $\pm$ 0.071	<0.0001
	7.8 - 11.0	283	0.081 $\pm$ 0.101	
	$\geq$ 11.1	201	0.102 $\pm$ 0.110	
Triglyceride (mmol/L)	$\leq$ 2.2	389	0.057 $\pm$ 0.062	<0.0001
	>2.2	667	0.082 $\pm$ 0.103	
Free fatty acid (mmol/L)	< 0.6	589	0.066 $\pm$ 0.054	<0.0001
	$\geq$ 0.6	467	0.111 $\pm$ 0.112	
Body mass index (kg/m <sup>2</sup> )	$\leq$ 27	428	0.060 $\pm$ 0.087	<0.0001
	>27	628	0.079 $\pm$ 0.097	

p value from a one-way ANOVA

**Figure 9**

**Table 3. Multivariate analysis of the relationships of fasting plasma glycerol concentration with impaired glucose tolerance (2h glucose 7,8-11,0 mmol/L following a 75 g oral load) before and after adjustment for covariates identified in**

	Model 1	Model 2	Model 3	Model 4
<b>Glycerol (log)</b>				
$\beta$	1.75	1.62	1.46	0.77
Odds ratio	5.76	5.42	4.33	2.46
p	<0.0001	<0.0001	<0.0001	0.01
<b>Triglyceride (log)</b>				
$\beta$		0.54	0.35	0.12
Odds ratio		1.75	1.42	1.12
p		0.02	0.11	0.63
<b>Body mass index (kg/m<sup>2</sup>)</b>				
$\beta$			0.10	0.05
Odds ratio			1.10	1.05
p			<0.0001	0.01
<b>Fasting insulin (log)</b>				
$\beta$				0.57
Odds ratio				1.31
p				0.39
<b>Fasting glucose (mmol/L)</b>				
$\beta$				1.13
Odds ratio				2.65
p				<0.0001
<b>Free fatty acid (log)</b>				
$\beta$				1.62
Odds ratio				4.33
p				0.007

**Figure 10**